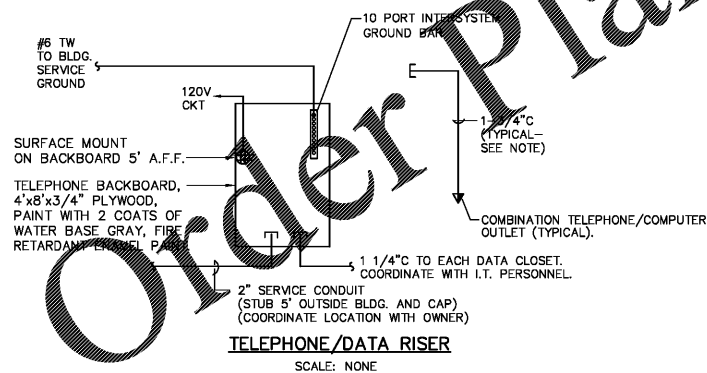


**GENERAL ELECTRICAL NOTES**

- FURNISH ALL MATERIALS AND LABOR NECESSARY TO PROVIDE COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEMS. FURNISH ALL MATERIALS AND LABOR NECESSARY TO DEMONSTRATE TO THE OWNER AND TO THE ENGINEER THAT ALL SYSTEMS ARE OPERATING PROPERLY AND AS SPECIFIED. WARRANTY ALL WORK AND ALL MATERIALS, EQUIPMENT AND DEVICES FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE.
- WORK SHALL CONFORM TO THE LATEST ADOPTED EDITION OF:
  - ANSI/NFPA 70 (NATIONAL ELECTRICAL CODE)
  - NECA STANDARD OF INSTALLATION
  - INTERNATIONAL BUILDING CODE
  - NFPA 101 (LIFE SAFETY CODE)
  - IECC (INTERNATIONAL ENERGY CONSERVATION CODE)
  - ALL FEDERAL, STATE AND LOCAL CODES AND ORDINANCES
  - LOCAL UTILITY COMPANY REGULATIONS
- ALL MATERIALS, EQUIPMENT AND DEVICES SHALL BE NEW AND AS A MINIMUM MEET THE REQUIREMENTS OF U.L. WHERE U.L. STANDARDS ARE ESTABLISHED FOR THOSE ITEMS, AND THE REQUIREMENTS OF NFPA 70. ALL ITEMS SHALL BE CLASSIFIED BY U.L. AS SUITABLE FOR THE PURPOSE USED.
- COORDINATE LOCATION OF ELECTRICAL DEVICES AND ELECTRICAL WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
- PROVIDE THE INTERCONNECTING POWER WIRING AND CONDUIT, CONTROL WIRING RATED 120 VOLTS (NOMINAL) AND CONDUIT, AND THE ELECTRICAL POWER CIRCUITS FOR ALL EQUIPMENT PROVIDED BY OTHER TRADES.
- COORDINATE WITH AND OBTAIN PERMITS AND INSPECTIONS FROM THE AUTHORITY HAVING JURISDICTION, AND INCLUDE ALL FEES IN BID.
- PROVIDE A LAMINATED PLASTIC NAMEPLATE FOR EACH MAJOR ITEM OF ELECTRICAL EQUIPMENT (E.G. PANELBOARDS, DISCONNECT SWITCHES, TRANSFORMERS, ETC.). ATTACH WITH SCREWS, BOLTS OR RIVETS.
- PROVIDE ALL PANELS WITH TYPED DIRECTORIES SHOWING AS-BUILT CONDITIONS AND LABEL ALL CIRCUITS.
- THE NEUTRAL AND GROUND BUS SHALL BE BONDED TOGETHER AT THE SERVICE EQUIPMENT AND AT ANY DOWNSTREAM TRANSFORMERS WHICH CONSTITUTE A SEPARATELY DERIVED SYSTEM. THE GROUNDING CONDUCTOR SHALL BE BONDED TO THE GROUNDING ELECTRODE SYSTEM, WHICH SHALL BE COMPRISED OF A 3/4" X 10' DRIVEN GROUND ROD, METALLIC PIPING, BUILDING STEEL, ETC. ALL SUBPANELS SHALL HAVE INSULATED ISOLATED NEUTRALS PER N.E.C. ARTICLE 250.
- ALL 120V CIRCUITS SHALL BE COMPRISED OF AN UNGROUNDED CONDUCTOR AND AN INSULATED NEUTRAL. THERE WILL BE NO SHARING OF NEUTRALS.
- ALL WIRING SHALL BE COPPER, 600 VOLT, WITH THIN/THIN INSULATION INSTALLED IN CONDUIT UNLESS NOTED OTHERWISE. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG FOR POWER AND LIGHTING CIRCUITS AND #16 AWG FOR CONTROL CIRCUITS UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE, CONDUITS SHALL BE:
  - ELECTRICAL METALLIC TUBING (EMT) FOR INTERIOR LOCATIONS.
  - SCHEDULE 40 PLASTIC CONDUIT (PVC) FOR EXTERIOR LOCATIONS.
  - RIGID GALVANIZED STEEL (RGS) CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE.
- ALL CONDUIT ABOVE CEILING SHALL BE SUPPORTED FROM BUILDING STRUCTURAL MEMBERS OR CONCRETE DECKING, NOT FROM CEILING GRID OR GRID HANGER WIRES.
- PROVIDE ALL MOUNTING BRACKETS, HANGERS, CLIPS, ETC. AS NECESSARY TO MOUNT AND SECURE LIGHT FIXTURES IN LOCATIONS SHOWN AND AS RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION INTENDED.
- WHERE CONDUIT PENETRATES FIRE RATED BARRIERS (WALLS, FLOORS AND CEILINGS), SEAL THE OPENING AROUND THE CONDUIT WITH U.L. LISTED FIRE STOPPING MATERIAL TO MAINTAIN THE FIRE RATING OF THE BARRIER.
- ROUTE CONDUIT THROUGH ROOF OPENINGS FOR PIPING AND DUCTWORK WHERE POSSIBLE; COORDINATE ALL PENETRATIONS WITH ARCHITECT.
- MAKE ARRANGEMENTS WITH THE POWER COMPANY TO OBTAIN PERMANENT ELECTRICAL SERVICE TO THE PROJECT. PROVIDE SERVICE ENTRANCE AND PROVISIONS FOR METERING IN ACCORDANCE WITH THE POWER COMPANY'S REQUIREMENTS. INCLUDE ALL FEES IN BID.
- MAKE ARRANGEMENTS WITH THE POWER COMPANY AND PROVIDE TEMPORARY ELECTRICAL SERVICE TO THE PROJECT FOR CONSTRUCTION POWER. INCLUDE ALL FEES IN BID.
- PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH IBC 2018. SUBMIT SHOP DRAWINGS FOR APPROVAL.



**LIGHT FIXTURE SCHEDULE (UNLESS NOTED OTHERWISE EQUALS WILL BE ACCEPTED)**

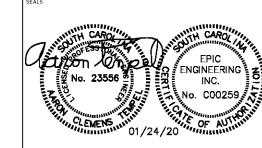
TYPE	DESCRIPTION	LAMP(S)	MANUFACTURER
A1	2' X 4' LED RECESSED TROFFER, 125" ACRYLIC PRISMATIC LENS, NORMAL OUTPUT, MVOLT. PROVIDE WITH 0-10V DIMMING WHERE INDICATED WITH LOW VOLTAGE WIRING ON DRAWINGS. PROVIDE WITH EMERGENCY BATTERY BACKUP WHERE INDICATED WITH "EM" ON DRAWINGS.	41.2W LED 4000K 4800 LM	MARK ARCHITECTURAL LIGHTING-WHISPER SERIES
A2	2' X 4' LED RECESSED TROFFER, 125" ACRYLIC PRISMATIC LENS, NORMAL OUTPUT, MVOLT. PROVIDE WITH 0-10V DIMMING WHERE INDICATED WITH LOW VOLTAGE WIRING ON DRAWINGS. PROVIDE WITH EMERGENCY BATTERY BACKUP WHERE INDICATED WITH "EM" ON DRAWINGS.	52.9W LED 4000K 6000 LM	MARK ARCHITECTURAL LIGHTING-WHISPER SERIES
B	4" LENSED LED STRIPLIGHT, SURFACE MOUNTED, WHITE FINISH, 120V. SQUARE SNAP ON DIFFUSER.	34W LED 5000 LM 4000K	LITHONIA-ZLIN SERIES
C	6" LED DOWNLIGHT WITH MEDIUM WIDE DISTRIBUTION, SEMI-SPECULAR FINISH, AND 0-10V DIMMING WHERE SHOWN WITH LOW VOLTAGE CONTROL WIRING ON PLANS. 90CRI. MVOLT. SUBSCRIPT "EM" INDICATES FIXTURE TO BE PROVIDED WITH EMERGENCY BATTERY BACKUP.	23.2W LED 4000K 2000LM	GOTHAM-EVO SERIES
D	LED RECESSED CAN, 6" DIAMETER, DECO FROSTED DOME WITH WHITE REFLECTOR/RING, UL LISTED FOR DAMP LOCATIONS, 120V. SUBSCRIPT "EM" INDICATES FIXTURE TO BE PROVIDED WITH EMERGENCY BATTERY BACKUP.	LED 10W	LITON-LHLD610C50
E	8" LINEAR DIRECT/INDIRECT, AIRCRAFT CABLE SUSPENDED, MVOLT, 0-10V DIMMING WHITE, EXTRUDED ACRYLIC LENSE WITH MesoOPTICS FILM. PROVIDE EXTENSIONS AND ENDCAPS AS NECESSARY. COORDINATE MOUNTING OPTIONS WITH SUSPENDED CEILING SYSTEM. SUBSCRIPT "EM" INDICATES FIXTURE TO BE PROVIDED WITH EMERGENCY BATTERY PACK.	4000K 4600 LM/4FT (70XDOWN) 36 WATTS	LEDALITE BY SIGNIFY TRU GROOVE SERIES
F	DECORATIVE PENDANT WITH THREE 63" LED STRIPS, 12" VERTICAL SPACING (MVOLT) 0-10V DIMMING, WHITE DIRECT. 24" STARTER MOUNTING STEM.	4000K 522 LM/FT 63 WATTS	EUREKA SWITCH 7470X SERIES
G	12" DECORATIVE SUSPENDED LED LOW BAY PENDANT, 24" PENDANT LENGTH, PRISMATIC REFRACTOR, 120V.	50W LED 4000K 4,000 LM	ATLANTIC LIGHTING VR SERIES
J	16" BULIT PENDANT: WHITE FINISH, FROSTED ACRYLIC LENSE, MVOLT, 0-10V DIMMING WITH STAINLESS STEEL CABLE TRIPOD. SUBSCRIPT "EM" INDICATES FIXTURE TO BE PROVIDED WITH REMOTE EMERGENCY BATTERY PACK.	4000K 3000 LM 32 WATTS	IMPACTI ARCHITECTURAL LIGHTING BULIT SERIES
K	8" BULIT PENDANT: WHITE FINISH, FROSTED ACRYLIC LENSE, MVOLT, 0-10V DIMMING WITH STAINLESS STEEL CABLE TRIPOD. SUBSCRIPT "EM" INDICATES FIXTURE TO BE PROVIDED WITH REMOTE EMERGENCY BATTERY PACK.	4000K 2200 LM 20 WATTS	IMPACTI ARCHITECTURAL LIGHTING BULIT SERIES
L	LED WALL PACK, DIE CAST ALUMINUM HOUSING, BRONZE FINISH. PROVIDE WITH BATTERY BACKUP SUITABLE FOR WEATHER. FULL CUTOFF SHIELD. MVOLT. PROVIDE WITH INTEGRAL PHOTOCELL.	LED 3000 LM 4000K	LITHONIA-WST SERIES
M	8" LENSED LED STRIPLIGHT, CHAIN HUNG, WHITE FINISH, 120V. SQUARE SNAP ON DIFFUSER.	68W LED 10000 LM 4000K	LITHONIA-ZLIN SERIES
Ⓜ	LED EXIT SIGN, EDGE-LIT, PRECISION-MOLDED TEXTURED, RED LETTERS, INTEGRAL BATTERY AND CHARGER, MOUNTING AS INDICATED PER LOCATION ON DRAWINGS.	LED'S PER CODE	LITHONIA-LRP SERIES
Ⓜ	EMERGENCY LIGHTING UNIT, PLASTIC HOUSING, WHITE FINISH, INTEGRAL BATTERY AND CHARGER, MOUNT 1' BELOW CEILING BUT NO HIGHER THAN 12' A.F.F. ADJUSTABLE OPTICS. PROVIDE WITH INTEGRAL HIGH OUTPUT BATTERY CAPABLE OF POWERING 2 REMOTE FIXTURES FOR 90 MINUTES, WHERE INDICATED WITH "R" ON DRAWINGS.	2-2.4W LED	LITHONIA-ELM2L SERIES
Ⓜ	LED EXIT/EMERG. LIGHTING COMBO UNIT, PLASTIC HOUSING, WHITE FINISH, INTEGRAL BATTERY AND CHARGER, MOUNT 1' BELOW CEILING BUT NO HIGHER THAN 12' A.F.F., PROVIDE WITH INTEGRAL HIGH OUTPUT BATTERY CAPABLE OF POWERING 2 REMOTE FIXTURES FOR 90 MINUTES, WHERE INDICATED WITH "R" ON DRAWINGS.	2-1.5W LED	LITHONIA-LHQM SERIES
Ⓜ	OUTDOOR 2 HEAD CYLINDER, BLACK FINISH, 3.6V, 1.5W - POWERED FROM EMERGENCY LIGHT AS INDICATED ON PLANS. REFER TO EXTERIOR ELEVATIONS FOR MOUNTING HEIGHTS. WEATHER PROOF.	2-1.5W 3.6V	LITHONIA-ELA Q

**LEGEND**

- Ⓜ A ENCLOSED LED FIXTURE, LETTER INDICATES TYPE, APPROXIMATE DIMENSIONS AS INDICATED.
- Ⓜ A LINEAR LED FIXTURE, LETTER INDICATES TYPE.
- Ⓜ A CEILING MOUNTED FIXTURE, LETTER INDICATES TYPE.
- Ⓜ A WALL MOUNTED FIXTURE, LETTER INDICATES TYPE.
- Ⓜ A LIGHTING TRACK WITH LENGTH & NUMBER OF FIXTURES INDICATED, LETTER INDICATES TYPE.
- Ⓜ EXIT SIGN, BLACKENED AREA(S) INDICATE FACE(S), DIRECTIONAL ARROWS AS INDICATED.
- Ⓜ EMERGENCY LIGHTING UNIT WITH NUMBER OF HEADS INDICATED.
- Ⓜ 2-HEAD EMERGENCY LIGHT POWERED REMOTELY FROM EMERGENCY BATTERY PACK.
- Ⓜ SWITCH, 20 AMP, 120-277V, AC (48" A.F.F. UNLESS NOTED OTHERWISE)  
SUBSCRIPT: NONE - SINGLE POLE (UNLESS NOTED OTHERWISE)  
3 - 3 WAY  
4 - 4 WAY  
LVD - ELECTRONIC LOW VOLTAGE DIMMER (COMPATIBLE WITH TYPE OF FIXTURES USED AND CIRCUIT LOADING - PROVIDE SHOP DRAWINGS)  
M - MOTOR RATED (120V, 1P, 30A UNLESS NOTED OTHERWISE)  
VS - DUAL TECHNOLOGY VACANCY SENSOR (MANUAL ON, AUTO OFF - LEVITON "O2C" OR EQUAL)  
LP - BRIGHTON DIGITAL SWITCH OR EQUAL (FOR TEMPORARY OVERRIDE OF PANEL LP'S AUTO OFF SETTING DURING UNOCCUPIED HOURS - SEE GENERAL NOTES ON SHEET E101, AND LIGHTING CONTROL SCHEMATIC ON SHEET E402).
- Ⓜ DISCONNECT SWITCH, UNLESS NOTED OTHERWISE RATING SHALL BE 240V, 30 AMP/2 POLE/NEARLY NON FUSED (30/2/1/NF). 20AF - INDICATES 20 AMP FUSE. (FUSES SHALL BE DUAL ELEMENT, TIME DELAY, CURRENT LIMITING).
- Ⓜ ELECTRIC MOTOR (PROVIDED UNDER MECHANICAL - WIRED UNDER ELECTRICAL).
- Ⓜ DUPLEX RECEPTACLE OUTLET, 20 AMP, 125V AC, 2 POLE, 3 WIRE, GROUNDING (18" A.F.F. UNLESS NOTED OTHERWISE).  
SUBSCRIPT: WR - LISTED WEATHER RESISTANT RECEPTACLE WITH "WEATHERPROOF" WHILE IN USE COVER.
- Ⓜ DUPLEX RECEPTACLE OUTLET, MOUNT 6" ABOVE COUNTER
- Ⓜ DUPLEX RECEPTACLE OUTLET, GROUND FAULT CIRCUIT INTERRUPTER (GFCI).
- Ⓜ DUPLEX RECEPTACLE OUTLET, GFCI, MOUNT 6" ABOVE COUNTER.
- Ⓜ QUADRUPLEX RECEPTACLE OUTLET (TWO DUPLEX RECEPTACLES MOUNTED IN COMMON BOX)
- Ⓜ DUPLEX RECEPTACLE OUTLET, SEE ABOVE, FLUSH FLOOR MOUNTED, NON METALLIC WITH APPROPRIATE TRIM AND BRUSHED BRASS COVERPLATE
- Ⓜ COMBINATION POWER/DATA/TELEPHONE FLOOR BOX - WIRE MOLD MODULINK 880 MP SERIES NON METALLIC FLOOR BOX WITH APPROPRIATE TRIM AND BRUSHED BRASS COVERPLATE
- Ⓜ SPECIAL RECEPTACLE OUTLET, RATING AND CONFIGURATION TO MATCH EQUIPMENT PROVIDED UNLESS NOTED OTHERWISE
- Ⓜ JUNCTION BOX, COORDINATE WITH EQUIPMENT (18" A.F.F. UNLESS NOTED OTHERWISE).
- Ⓜ COMBINATION TV/TELEPHONE/COMPUTER OUTLET, 4"x4"x1 1/2" BOX WITH SINGLE GANG EXTENSION RING (18" A.F.F., 3/4" CONDUIT UNLESS NOTED OTHERWISE).
- Ⓜ TV OUTLET, 4"x4"x1 1/2" BOX WITH SINGLE GANG EXTENSION RING (18" A.F.F. UNLESS NOTED OTHERWISE).
- Ⓜ 208/120V, POWER PANEL
- Ⓜ TELEPHONE BACKBOARD
- Ⓜ GROUNDING CONNECTION/DEVICE.
- Ⓜ BRANCH CIRCUIT, ARROW INDICATES HOMERUN, CROSS LINES INDICATE NUMBER OF CONDUCTORS, GROUNDING CONDUCTOR IS NOT SHOWN BUT SHALL BE PROVIDED IN ALL CIRCUITS (2#12, 1#12G, 1/2"C UNLESS NOTED OTHERWISE).
- Ⓜ KEYED NOTE IDENTIFIER
- Ⓜ DUAL TECHNOLOGY VACANCY SENSOR, CEILING MOUNTED, LINE VOLTAGE (LEVITON O2C DUAL RELAY SERIES OR EQUAL).
- Ⓜ DUAL TECHNOLOGY VACANCY SENSOR, CEILING MOUNTED, LOW VOLTAGE, 2000 SQUARE FOOT COVERAGE, PROVIDE RELAY AND PHOTOCELL OPTION TO ENSURE "DRY CONTACTS" ARE PROVIDED (HUBBELL OMNIDT2000 OR EQUAL).
- Ⓜ LOW VOLTAGE WIRE FOR LIGHTING CONTROL
- Ⓜ FIRE ALARM CONTROL PANEL. COORDINATE WITH FIRE ALARM PERSONNEL.
- Ⓜ 120V IN-LINE THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR.
- Ⓜ DOOR JAMB SWITCH, 20 AMP, 120V AC



**EPIC ENGINEERING INC.**  
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(843) 948-6878 EPIC JOB NO. 19086



THE OPPORTUNITY CENTER  
8570 RIVERS AVE N CHARLESTON SC

SHEET ISSUE:  
01/14/2020 Redline Set  
01/24/2020 Final/Etd Set

PRINCIPAL IN CHARGE: ACT  
PROJECT ENGINEER: ACT  
DRAWN BY: RAD

SHEET TITLE:  
**NOTES, LEGEND, SCHEDULES**

PROJ. NO: MFS  
DATE: 01/24/20

SHEET NO.

**E001**